



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/667,961

09/22/2003

Christopher B. Weare

MSFT-2836/167510.3

1192

41505 7590 03/13/2007

WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION)

CIRA CENTRE, 12TH FLOOR

2929 ARCH STREET

PHILADELPHIA, PA 19104-2891

EXAMINER

FLETCHER, MARLON T

ART UNIT

PAPER NUMBER

2837

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

03/13/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/667,961		WEARE ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Marlon T. Fletcher		2837	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite a method and a device for determining tempo. However, neither claim recites a method or element for determining tempo. The final output should provide the determined tempo. The claims are indefinite.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-5, 7-22, and 24-30 rejected under 35 U.S.C. 102(a) as being anticipated by Yourlo (6,201,176).

Yourlo discloses a device and method for determining tempo in an input piece of music, comprising: creating a compact representation (304) of the input piece of music (100) (figure 3); processing of the compact representation to accentuate in a way tempo characteristics (402, 404) (figure 4); generating bins of data from the processed

Art Unit: 2837

compact representation, reflective of the different correlation strengths at different time periods (abstract; and figure 4); and feeding the bins of data into a classification chain (306).

Yourlo discloses the device and method, wherein said creating includes calculating blocks of samples of said input piece of music (column 5, line 36 – column 6, line 34).

Yourlo discloses the device and method, wherein the processing of the compact representation includes at least one of a first order difference calculation, a first half wave rectifying, applying median filtering, subtracting a mean value, a second half wave rectifying, another first order difference calculation, and a third half wave rectifying (column 5, line 60 – column 6, line 38).

Yourlo discloses the device and method, wherein the bins of data each represent the correlation strength of the period corresponding to the bin number normalized by the sampling rate of the compact representation (column 15, lines 16-21).

Yourlo discloses the device and method, wherein the classification chain is built upon an existing database classified by humans (figure 3).

Yourlo discloses the device and method, further including comparing (312) the bins of data to the classification chain data structure and determining an estimate of the tempo properties class of the piece of music based on said comparing.

Yourlo discloses the device and method, wherein said determining of an estimate of the tempo properties class includes returning at least one number indicating the level of confidence of the tempo properties class assignment (column 6, lines 13-30).

Yourlo discloses the device and method, further including outputting the estimate from the classification chain (figure 3).

Yourlo discloses the device and method, further including using said estimate by the classification chain to generate a playlist having pieces of music each having a similar tempo properties class as said piece of music (figure 4; and column 10, lines 6-22).

Yourlo discloses the device and method, including a computer readable medium comprising computer executable instructions for performing the method above.

#### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yourlo in view Pachet et al. (2002/0005110).

Yourlo is discussed above. Although inherent, Yourlo does not disclose classification vectors.

However, Pachet et al. disclose a device and method, wherein the classification chain includes a classification chain data structure having a plurality of classification vectors, wherein each vector includes data representative of a tempo properties class

as classified by humans and tempo characteristics as determined by digital signal processing.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Pachet et al. with Yourlo, because the teachings provide the analyses of the tempo through vectors, thereby targeting the properties.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon T. Fletcher whose telephone number is 571-272-2063. The examiner can normally be reached on M-F.

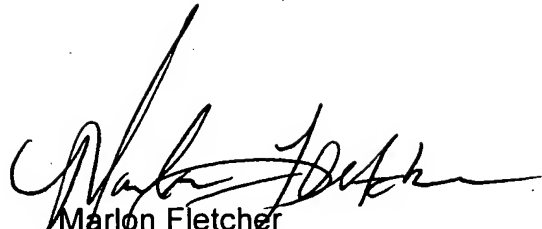
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on 571-272-1988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/667,961  
Art Unit: 2837

Page 6

MTF  
03/05/2007



Marlon Fletcher  
Primary Examiner